

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-38 (canceled)

39. An apparatus for catalyzing a reaction on a substrate comprising:
- a light source;
 - a computer-controlled micromirror positioned to redirect light from the light source toward the substrate; and
 - a reaction chamber, wherein light redirected by the micromirror catalyzes a chemical reaction proximate the substrate in the reaction chamber.
40. The apparatus of claim 39, wherein the light source comprises a UV light.
41. The apparatus of claim 39, further comprising a lens between the micromirror and the substrate.
- 42 (Amended). The apparatus of claim 41, wherein the lens is ~~further defined as a lens system, and wherein the lens system~~ changes the magnification of light reflected by the micromirror.
43. The apparatus of claim 39, wherein the micromirror is further defined as a micromirror array.
44. The apparatus of claim 39, wherein the light catalyzes the synthesis of a nucleotide base proximate the substrate.
45. The apparatus of claim 39, wherein the light catalyzes the synthesis of an amino acid residue proximate the substrate.
46. The apparatus of claim 39, wherein the light catalyzes a reaction involving a molecule proximate the substrate.

47. The apparatus of claim 39, wherein the light crosslinks a molecule proximate the substrate.

48 (Amended). An apparatus for catalyzing a reaction on a substrate comprising:

a light source;

a micromirror positioned to redirect light from the light source toward the substrate;

a reaction chamber disposed about the substrate;

one or more chemical reactant lines connected to the reaction chamber;

one or more ~~reaction~~ chemicals connected to the reactant lines; and

a computer connected to, and controlling, the micromirror and the supply of the one or more reaction chemicals to the reaction chamber via the chemical reactant lines, wherein a light catalyzable reaction occurs proximate to the site where light produced by the light source and redirected by the micromirror strikes the substrate.

49. The apparatus of claim 48, wherein the light source produces UV light.

50. The apparatus of claim 48, further comprising a lens between the micromirror and the substrate.

51 (Amended). The apparatus of claim 50, wherein the lens is ~~further defined as a lens system, and wherein the lens system~~ changes the magnification of light reflected by the micromirror.

52. The apparatus of claim 48, wherein the micromirror is further defined as a micromirror array.

53. The apparatus of claim 48, wherein the light catalyzes the synthesis of a nucleotide base proximate the substrate.

54. The apparatus of claim 48, wherein the light catalyzes the synthesis of an amino acid residue proximate the substrate.

55. The apparatus of claim 48, wherein the light catalyzes a reaction involving a molecule proximate the substrate.

56. The apparatus of claim 48, wherein the light crosslinks a molecule proximate the substrate.

Appl. No.: 09/998,341
Amdt. dated September 2, 2003
Reply to Office Action of June 26, 2003

57 (new). The apparatus of claim 39, wherein said light source is a xenon lamp, or a mercury lamp, or a laser or a combination thereof.

58 (new). The apparatus of claim 48, wherein said light source is a xenon lamp, or a mercury lamp, or a laser or a combination thereof.